

THE PREVALENCE OF MENTAL SUBNORMALITY IN TWO REGIONS

Some Comparisons Between North-East Scotland and Northern Ireland

By

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STUDIES on the prevalence of mental subnormality are carried out for three reasons: first, by establishing case rates for known subnormality to examine patterns of morbidity and the factors that influence this; second, to gain operational data relevant to existing practice, needs and planning of services: third, to provide a data bank for mounting clinical, genetical, social or biochemical studies on this diagnostic sub-group of the population. Detailed studies among regional populations, however, have been few in number. Forty years ago E. O. Lewis investigated six areas in England and Wales, each with a population of about 100,000 persons, and provided the first measure of severe subnormality (idiocy and imbecility) in this country (Lewis, 1929). Goodman and Tizard (1962) determined the prevalence of severe subnormality among children in Middlesex and in part of London using methods that allowed useful comparisons to be made with the findings obtained by Lewis. The prevalence of severe subnormality among young people in Salford was studied by Kushlick (1961) whose later enquiries provided similar prevalence data in respect of the population of the Wessex region (Kushlick, 1964, 1965).

The most comprehensive study of the prevalence of all known mental subnormality in a large region was carried out recently in Northern Ireland by Scally and MacKay (1964a). The detail and accurate coverage in this population survey owed much to the facilities, structure and development of the Special Care Service in Northern Ireland, uniquely in the United Kingdom, one authority responsible both for the community and hospital care of the mentally subnormal (Scally and MacKay, 1964b; Weir, 1949). A similar hospital and community survey of mental subnormality has been carried out in the North-East region of Scotland (Innes, Kidd and Ross, 1967). This enquiry was deliberately contrived to yield findings that would be directly comparable with those of the Northern Ireland survey. This paper reports on these comparisons.

THE GEOGRAPHICAL BACKGROUND

The North-East region of Scotland comprises the city of Aberdeen, the mainland counties of Aberdeen, Banff, Kincardine and Moray and the island counties of Orkney and Zetland (Shetland). Comparable with Northern Ireland the region occupies the north-eastern part of the land mass and is bounded on two sides by

sea. Aberdeen, the regional capital, like Belfast, is situated on the eastern seaboard, it is a university city and a centre of heavy and light industry. The mainland part of the region is 3,460 square miles in area, or one-ninth of Scotland. It forms the eastern part of the Highlands. The counties of Orkney and Zetland together form an archipelago of about 180 islands with a total area of 927 square miles; only 45 islands are now inhabited (Baldwin and Millar, 1964). The total regional area (4,387 square miles) is rather smaller than Northern Ireland (5,238 square miles). It is less densely populated; the population (479,421 persons) is one third that of Northern Ireland (1,435,400 persons).

METHOD

A diagnosis of mental subnormality was accepted where the intelligence quotient of a patient was ascertained to have been less than 70 on full intellectual development, a psychological measure equivalent to the socio-medical measure of "persons requiring special care" used in Northern Ireland. All patients with mental subnormality known to the hospital services of the North-Eastern Regional Hospital Board, Scotland, or to the Local Authority services of the region were included in the series. A point-prevalence survey was carried out to obtain clinical, social and demographic data on every subnormal patient identified at all child and adult mental deficiency and psychiatric hospitals, children's hospitals, out-patient services and from the records of each Local Authority service in the region. Care was taken to seek information on subnormal patients from the region who were in hospital care elsewhere in Scotland. The identifying, social and clinical factors that characterized each patient were recorded on a proforma; after checking and verification the data was processed and analysed.

RESULTS

On the census day 2,887 known mentally subnormal patients of all ages (1,616 men, 1,271 women) were resident in the North-East Scottish region or placed in hospitals elsewhere by arrangement of the region's services. This figure represents a case rate for mental subnormality of 6.02 per 1,000 of the total regional population (based on the 1961 census). Scally and MacKay (1964a) reported that on census 4,361 known mentally subnormal patients of all ages (2,441 men, 2,190 women) were resident in Northern Ireland or placed in hospitals elsewhere by arrangement of the region's service. This figure represents a case rate of 3.2 per 1,000 of the total regional population (based on the Registrar General's mid-year estimate for 1962). The overall rate for North-East Scotland was almost twice that for Northern Ireland. The ratio of men to women patients in the two regions was similar, 1.27 : 1 for North-East Scotland and 1.12 : 1 for Northern Ireland.

Although in Northern Ireland persons ascertained as being in need of special care are not graded according to degree of severity of subnormality for statutory purposes, they are so graded for medical and psychological purposes. In Scottish practice the same gradings also are used; high grade (feeble-minded, I.Q. 50-69), medium grade (imbecile, I.Q. 20-49) and low grade (idiot, I.Q. 0-19). Table I compares the percentage distribution by grade and prevalence for the North-East Scottish series with Scally and MacKay's equivalent figures for the Northern Irish series.

Medium grade patients constituted the largest group (59 per cent.) of the Northern Irish series while high grade patients (54 per cent.) predominated in the

TABLE I
*Comparison of the percentage distribution and prevalence of mental subnormality
in North-East Scotland and Northern Ireland by grade*

<i>Grade of mental subnormality</i>	<i>North-East Scotland</i>			<i>Northern Ireland (Scully and MacKay, 1964)</i>		
	<i>Number</i>	<i>Percentage of series</i>	<i>Prevalence per 1,000 pop.</i>	<i>Number</i>	<i>Percentage of series</i>	<i>Prevalence per 1,000 pop.</i>
Low grade	106	3.7	0.23	510	11.0	0.35
Medium grade	933	32.2	1.94	2,732	59.0	1.90
High grade	1,565	54.2	3.26	1,389	30.0	1.97
Not known	283	9.8	0.59	—	—	—
All grades	2,887	100.0	6.02	4,631	100.0	3.22

North-East Scottish series. In both regions the smallest group were low grade patients. The higher overall prevalence rate among the North-East Scottish population is seen to be accounted for by the prevalence of high grade subnormality in this region, 3.26 per 1,000 at risk compared with 1.97 per 1,000 of the population of Northern Ireland. This difference did not obtain for severe subnormality. In both regions the rates for low grade subnormality were similar and for medium grade subnormality were identical.

The degree of handicap had been ascertained for all the patients in the Northern Irish study. In 283 cases of the North-East Scottish series (9.8 per cent.) the grade of subnormality was not stated in the records. One third of these were in the 0-4 age group and the remainder mostly were patients living on small islands where they were not easily accessible for psychometric assessment.

In both series the male : female ratio was similar for all grades of subnormality. This was also so in all age groups within each grade where in both regions the male patients outnumbered or equalled the females.

The distribution of the prevalence of medium and low grade subnormality per 1,000 population of North-East Scotland and of Northern Ireland by age groups is shown in Table II. As in Scully and MacKay's report high grade patients have been omitted, rates for low and medium grade patients are presented both separately and combined and the figures have been rounded to the first decimal place.

The rates for low grade subnormality in Northern Ireland were higher than those in North-East Scotland in all age groups below 30 years while above this age the reverse was true. The rates for medium grade subnormality in North-East Scotland similarly exceeded the figures for Northern Ireland in all age groups over 30 years but also in age groups 5-9 and 15-19 years. However, the difference between the regions in age-specific prevalence are not marked. Rates for combined medium and low grade subnormality only differed substantially in the 10-14 age group where the prevalence in Northern Ireland (3.7 per 1,000 population) was higher than in North-East Scotland (2.3 per 1,000 population) and in the over 60

TABLE II
*Prevalence of low and medium grade patients per 1,000 population in
North-East Scotland and Northern Ireland by age groups*

<i>Age groups</i>	<i>North-East Scotland</i>			<i>Northern Ireland (Scully and MacKay, 1964)</i>		
	<i>Low grade</i>	<i>Medium grade</i>	<i>Low and Medium grades</i>	<i>Low grade</i>	<i>Medium grade</i>	<i>Low and Medium grades</i>
0-4	0.3	0.5	0.8	0.4	0.7	1.1
5-9	0.4	3.1	3.5	0.7	2.7	3.4
10-14	0.3	2.0	2.3	0.6	3.0	3.7
15-19	0.3	3.4	3.7	0.7	3.3	4.0
20-29	0.2	3.0	3.2	0.5	3.3	3.9
30-39	0.2	1.9	2.1	0.2	1.8	1.9
40-49	0.3	1.7	2.0	0.2	1.5	1.7
50-59	0.2	1.6	1.8	0.1	1.2	1.3
60+	0.1	1.2	1.3	0.0	0.6	0.6
All ages	0.2	1.9	2.2	0.4	1.9	2.3

age group where the prevalence in North-East Scotland (1.3 per 1,000 population) was higher than in Northern Ireland (0.6 per 1,000 population).

DISCUSSION

Casual observations suggest that the regions of North-East Scotland and Northern Ireland have much in common. Geographically both are similarly situated in the British Isles, the north-east position of each island. The boundaries of both are the sea on the north and east and mountains on the west and south. Population density is greatest on the coasts and valleys, least in the hills and moorlands. The people of each area have similar attributes that delineate them from those of neighbouring regions. Like Northern Ireland, the population of North-East Scotland is predominantly Protestant, their ethnicity deriving from lowland Scots, English and early Scandinavian elements. The remainder are Roman Catholics, their ethnicity deriving largely from gaelicdom. There is considerable rural-urban shift and, in common with Northern Ireland, economic factors and employment difficulties lead to emigration. The natural boundaries and the defined but diversified populations of both these regions provide an ideal and stable foundation for epidemiological surveys.

Scully and MacKay (1964a) have commented on the problems that beset meaningful comparisons of population morbidity surveys of mental subnormality and this needs no further elaboration here except to indicate that, where possible, these difficulties have been minimised in the present study. The methods, techniques, data handling and data presentation of this survey of subnormality in the North-East region of Scotland were identical to those used by Scully and MacKay in the Northern Irish survey. Because of this, comparisons between the findings from both regions have some validity.

The regions differ in the structure of the services provided for the case of the mentally subnormal. The Special Care Service in Northern Ireland is responsible

for the ascertainment and care of patients both in hospitals and in the community. In North-East Scotland the Regional Hospital Board is responsible for subnormal patients in mental hospitals and mental deficiency hospitals through their respective Boards of Management and the Local Authorities are responsible for the community care and provisions of services and supervision of non-hospitalised patients living in each county area. The criteria for ascertained subnormality differ in the two regions, although mainly in definition. A medico-social criterion is employed in Northern Ireland and a medico-psychological criterion is employed in Scotland. This may explain the difference in overall prevalence found when these surveys are compared, especially since the higher rate in North-East Scotland was found to be due to the higher prevalence of high grade subnormality in this population. It is possible that many of these high grade patients while known by the authorities to have impaired intellect might not be defined in respect of their social behaviour as "persons suffering from arrested or incomplete development of mind . . . which renders them socially inefficient to such an extent that they require supervision, training, or control in their own interests, or in the interests of other persons." (Mental Health Act, Northern Ireland, 1961).

Scally and MacKay (1964a) pointed out accurately that if there is a relationship between severity of mental handicap and extent of social inefficiency the number of persons of medium and low grade subnormality who stay outwith the special care services would be small, and that known cases would provide a reliable index of true prevalence. The prevalence of medium and low grade subnormality in North-East Scotland (2.2 per 1,000 at risk) was the same as for Northern Ireland (2.3 per 1,000 at risk). Other findings from the North-East Scottish survey also highlight more similarities than differences between the two regions. Both regions have similar separate rates for low grade subnormality and for medium grade subnormality, and broadly similar patterns of distribution among age groups where in both regions known prevalence was highest in the age groups 5-29 years and lowest in age groups 0-4 years and over 30 years.

Kushlick (1961) considered that the prevalence of known subnormality among the 15-19 years age groups was an accurate index of true prevalence since few patients would not have been detected at school and those not identified would likely become known during early work years. In North-East Scotland the case rate for combined medium and low grade subnormality among this age group was 3.7 per 1,000 population. This is similar to the rate of 4.0 per 1,000 recorded for the same age group in Northern Ireland, of 3.64 per 1,000 in Salford (Kushlick, 1961) and of 3.75 per 1,000 in the Wessex region (Kushlick, 1964).

The differences between the two regions in age-specific prevalence of medium and low grade subnormality were not marked. In essence there were proportionally more older patients known to the authorities in North-East Scotland than were registered with the Northern Ireland Special Care Service. The trend in Northern Ireland for many years has been a reduction in admissions and an increase in transfer of special care patients from mental hospitals to special care accommodation. Of the subnormal population in North-East Scotland, one third of those in hospital, a tenth of all subnormal patients, were in mental hospitals. Of the subnormal patients who were in mental hospitals, 51 per cent. were age 60 years and over (Innes et al., 1961).

SUMMARY

The case load of mental subnormality in the North-East region of Scotland was determined by carrying out a point-prevalence survey of all patients with mental subnormality identified at the hospital services or known to the local authority services of the region. The deliberate use of methods and data presentation employed in a recent similar survey of all patients with mental subnormality known to the Northern Ireland Special Care Service allowed valid comparisons to be made on the prevalence of subnormality in these two large regions.

These comparisons are presented and discussed. Except in respect of high grade subnormality and of older age groups, inter-regional comparisons show striking similarities in the prevalence of mental subnormality and its distribution.

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